

Amendments to the Claims:

Please amend claims 1, 2, 14, 17, 19-22, 24, 25, 27-29, 41, 44, 46-49, 51, 52, 54, 55, and 60. Please add new claims 61 and 62. A complete listing of the claims is listed below with the proper claim identifiers; this listing of claims will replace all prior versions, and listings, of claims in the application:

1 (Currently amended) A method for identifying a chemoattractant receptor antagonist, comprising:

providing an apparatus comprising an upper chamber and a lower chamber separated by a porous membrane;
placing a candidate antagonist and incubating a cell population comprising first and second chemoattractant receptors in the upper chamber;
placing contacting the cell population with an inhibitory concentration of a ligand for the first chemoattractant receptor in the lower chamber;
placing contacting the cell population with an inhibitory concentration of a ligand for the second chemoattractant receptor in the lower chamber;
contacting the cell population with a candidate antagonist;
assaying migration monitoring movement of the cell population from the upper chamber to the lower chamber, wherein migration the movement identifies the candidate antagonist as an antagonist of at least one of the first and second chemoattractant receptors; and
determining whether an identified antagonist is an antagonist for one of the first chemoattractant receptors, the second chemoattractant receptor, or both.

2. (Currently amended) The method of claim 1, wherein ~~the step of contacting the cell population with a candidate antagonist comprises contacting the cell population with at least two candidate antagonists are placed with the cell population in the upper chamber.~~

3. (Original) The method of claim 1, wherein the candidate antagonist is a peptide, peptide-like molecule, non-peptidyl organic compound, inorganic compound, nucleic acid or antibody.

4. (Original) The method of claim 1, wherein the inhibitory concentration of the ligand for the first chemoattractant receptor inhibits cell migration greater than or equal to about 50% of maximal ligand-activated cell migration.

5. (Original) The method of claim 1, wherein the inhibitory concentration of the ligand for the first chemoattractant receptor inhibits cell migration greater than or equal to about 95% of maximal ligand-activated cell migration.

6. (Original) The method of claim 1, wherein the inhibitory concentration of the ligand for the first chemoattractant receptor inhibits cell migration greater than or equal to about 100% of maximal ligand-activated cell migration.

7. (Original) The method of claim 1, wherein the inhibitory concentration of the ligand for the second chemoattractant receptor inhibits cell migration greater than or equal to about 50% of maximal ligand-activated cell migration.

8. (Original) The method of claim 1, wherein the inhibitory concentration of the ligand for the second chemoattractant receptor inhibits cell migration greater than or equal to about 95% of maximal ligand-activated cell migration.

9. (Original) The method of claim 1, wherein the inhibitory concentration of the ligand for the second chemoattractant receptor inhibits cell migration greater than or equal to about 100% of maximal ligand-activated cell migration.

10. (Original) The method of claim 1, wherein the first and second chemoattractant receptors are each independently a chemokine receptor.

11. (Original) The method of claim 10, wherein the chemokine receptor is selected from the group consisting of CCR, CXCR, CX3CR, and XCR classes of chemokine receptors.

12. (Original) The method of claim 11, wherein the chemokine receptors are CXCR1, CXCR2, CXCR3, CXCR4, CXCR5, CCR1, CCR2, CCR3, CCR4, CCR5, CCR6, CCR7, CCR8, CCR9, CCR10, CCR11, CX3CR1 or XCR1.

13. (Original) The method of claim 1, wherein the ligand for the first chemoattractant receptor is a chemokine.

14. (Currently amended) The method of claim 13, wherein the chemokine is selected from the group consisting of CCR, CXCR, and CX3CR receptor ligands.

15. (Original) The method of claim 14, wherein the chemokine is IL-8, GCP-2, Gro α , Gro β , Gro γ , ENA-78, PBP, MIG, IP-10, I-TAC, SDF-1 α , BLC, MIP-1 α , MIP-1 β , RANTES, HCC-1, HCC-2, HCC-3, HCC-4, MCP-1, MCP-2, MCP-3, MCP-4, eotaxin-1, eotaxin-2, TARC, MDC, MIP-3 α , MIP-3 β , 6Ckine, I-309, TECK, lymphotactin, fractalkine, TCA-4, Exodus-2, Exodus-3, or CK β -11.

16. (Original) The method of claim 1, wherein the ligand for the second chemoattractant receptor is a chemokine.

17. (Currently amended) The method of claim 16, wherein the chemokine is selected from the group consisting of CCR, CXCR, and CX3CR receptor ligands.

18. (Original) The method of claim 17, wherein the chemokine is IL-8, GCP-2, Gro α , Gro β , Gro γ , ENA-78, PBP, MIG, IP-10, I-TAC, SDF-1 α , BLC, MIP-1 α , MIP-1 β , RANTES, HCC-1, HCC-2, HCC-3, HCC-4, MCP-1, MCP-2, MCP-3, MCP-4, eotaxin-1, eotaxin-2, TARC, MDC, MIP-3 α , MIP-3 β , 6Ckine, I-309, TECK, lymphotactin, fractalkine, TCA-4, Exodus-2, Exodus-3, or CK β -11.

19. (Currently amended) The method of claim 1, wherein the ligands for the first and the second chemokine receptors are added placed in the lower chamber simultaneously.

20. (Currently amended) The method of claim 1, wherein the ligands for the first and the second chemokine receptors are added placed in the lower chamber in series.

21. (Currently amended) The method of claim 1, wherein the candidate antagonist is contacted placed before at least one of the ligands.

22. (Currently amended) The method of claim 1, wherein assaying migration monitoring movement comprises measuring a signal.

23. (Original) The method of claim 22, wherein the signal is a fluorescent signal.

24. (Currently amended) The method of claim 1, wherein assaying monitoring movement comprises counting cells using a microscope.

25. (Currently amended) The method of claim 1, wherein assaying monitoring movement comprises labeling cells with a marker.

26. (Original) The method of claim 25, wherein the marker is a dye or a radioactive label.

27. (Currently amended) The method of claim 1, wherein determining is performed by a method comprising steps of:

incubating a first cell population comprising the first chemoattractant receptor with a candidate antagonist in the upper chamber;

incubating a second cell population comprising the second chemoattractant receptor with the candidate antagonist in the upper chamber;
contacting the first cell population with placing an inhibitory concentration of a ligand for the first chemoattractant receptor in the lower chamber;
contacting the first cell population with placing an inhibitory concentration of a ligand for the second chemoattractant receptor in the lower chamber; and
assaying cell migration movement of the first and the second cell population from the upper chamber to the lower chamber, wherein cell migration the movement identifies the candidate antagonist as an antagonist of either the first or the second chemoattractant receptor.

28. (Currently amended) A method for identifying a chemoattractant receptor antagonist, comprising:

providing an apparatus comprising an upper chamber and a lower chamber separated by a porous membrane;
incubating placing a candidate antagonist and a first cell population and a second cell population in the upper chamber, wherein the first cell population comprises a first chemoattractant receptor and wherein the second cell population comprises a second chemoattractant receptor;
placing contacting the first and the second cell populations with an inhibitory concentration of a ligand for the first chemoattractant receptor in the lower chamber;
placing contacting the first and the second cell populations with an inhibitory concentration of a ligand for the second chemoattractant receptor in the lower chamber;
contacting the first and the second cell populations with a candidate antagonist;
assaying migration monitoring movement of the first and the second cell populations from the upper chamber to the lower chamber, wherein migration the movement identifies the candidate antagonist as an antagonist of at least one of the first and second chemoattractant receptors; and

determining whether an identified antagonist is an antagonist for one of the first chemoattractant receptors, the second chemoattractant receptor, or both.

29. (Currently amended) The method of claim 28, wherein ~~the step of contacting the first and the second cell populations with a candidate antagonist, comprises contacting the first and the second cell populations with at least two candidate antagonists~~ are placed with the first and the second cell populations in the upper chamber.

30. (Original) The method of claim 28, wherein the candidate antagonist is a peptide, peptide-like molecule, non-peptidyl organic compound, inorganic compound, nucleic acid or antibody.

31. (Original) The method of claim 28, wherein the inhibitory concentration of the ligand for the first chemoattractant receptor inhibits cell migration greater than or equal to about 50% of maximal ligand-activated cell migration.

32. (Original) The method of claim 28, wherein the inhibitory concentration of the ligand for the first chemoattractant receptor inhibits cell migration greater than or equal to about 95% of maximal ligand-activated cell migration.

33. (Original) The method of claim 28, wherein the inhibitory concentration of the ligand for the first chemoattractant receptor inhibits cell migration greater than or equal to about 100% of maximal ligand-activated cell migration.

34. (Original) The method of claim 28, wherein the inhibitory concentration of the ligand for the second chemoattractant receptor inhibits cell migration greater than or equal to about 50% of maximal ligand-activated cell migration.

35. (Original) The method of claim 28, wherein the inhibitory concentration of the ligand for the second chemoattractant receptor inhibits cell migration greater than or equal to about 95% of maximal ligand-activated cell migration.

36. (Original) The method of claim 28, wherein the inhibitory concentration of the ligand for the second chemoattractant receptor inhibits cell migration greater than or equal to about 100% of maximal ligand-activated cell migration.

37. (Original) The method of claim 28, wherein the first and second chemoattractant receptors are each independently a chemokine receptor.

38. (Original) The method of claim 37, wherein the chemokine receptor is selected from the group consisting of CCR, CXCR, CX3CR, and XCR classes of chemokine receptors.

39. (Original) The method of claim 38, wherein the chemokine receptors are CXCR1, CXCR2, CXCR3, CXCR4, CXCR5, CCR1, CCR2, CCR3, CCR4, CCR5, CCR6, CCR7, CCR8, CCR9, CCR10, CCR11, CX3CR1 or XCR1.

40. (Original) The method of claim 28, wherein the ligand for the first chemoattractant receptor is a chemokine.

41. (Currently amended) The method of claim 40, wherein the chemokine is selected from the group consisting of CCR, CXCR, and CX3CR receptor ligands.

42. (Original) The method of claim 41, wherein the chemokine is IL-8, GCP-2, Gro α , Gro β , Gro γ , ENA-78, PBP, MIG, IP-10, I-TAC, SDF-1 α , BLC, MIP-1 α , MIP-1 β , RANTES, HCC-1, HCC-2, HCC-3, HCC-4, MCP-1, MCP-2, MCP-3, MCP-4, eotaxin-1, eotaxin-2, TARC, MDC, MIP-3 α , MIP-3 β , 6Ckine, I-309, TECK, lymphotactin, fractalkine, TCA-4, Exodus-2, Exodus-3, or CK β -11.

43. (Original) The method of claim 28, wherein the ligand for the second chemoattractant receptor is a chemokine.

44. (Currently amended) The method of claim 43, wherein the chemokine is selected from the group consisting of CCR, CXCR, and CX3CR receptor ligands.

45. (Original) The method of claim 44, wherein the chemokine is IL-8, GCP-2, Gro α , Gro β , Gro γ , ENA-78, PBP, MIG, IP-10, I-TAC, SDF-1 α , BLC, MIP-1 α , MIP-1 β , RANTES, HCC-1, HCC-2, HCC-3, HCC-4, MCP-1, MCP-2, MCP-3, MCP-4, eotaxin-1, eotaxin-2, TARC, MDC, MIP-3 α , MIP-3 β , 6Ckine, I-309, TECK, lymphotactin, fractalkine, TCA-4, Exodus-2, Exodus-3, or CK β -11.

46. (Currently amended) The method of claim 28, wherein the ligands for the first and the second chemoattractant receptor are added placed in the lower chamber simultaneously.

47. (Currently amended) The method of claim 28, wherein the ligands for the first and the second chemoattractant receptor are added placed in the lower chamber in series.

48. (Currently amended) The method of claim 28, wherein the at least one candidate antagonist is contacted placed in the apparatus before the at least one of the ligands.

49. (Currently amended) The method of claim 28, wherein the assaying migration monitoring movement comprises measuring a signal.

50. (Original) The method of claim 49, wherein the signal is a fluorescent signal.

51. (Currently amended) The method of claim 28, wherein assaying migration monitoring movement comprises counting cells using a microscope.

52. (Currently amended) The method of claim 28, wherein assaying monitoring movement comprises labeling cells with a marker.

53. (Original) The method of claim 52, wherein the marker is a dye or a radioactive label.

54. (Currently amended) The method of claim 28, wherein determining is performed by a method comprising steps of:

incubating placing a first cell population comprising first chemoattractant receptor with and a candidate antagonist in the upper chamber;

incubating placing a second cell population comprising second chemoattractant receptor with and the candidate antagonist in the upper chamber;

contacting the first cell population with placing an inhibitory concentration of a ligand for the first chemoattractant receptor in the lower chamber;

contacting the second cell population with placing an inhibitory concentration of a ligand for the second chemoattractant receptor in the lower chamber; and

assaying cell migration monitoring movement of the first and the second cell population from the upper chamber to the lower chamber, wherein cell migration the movement identifies the candidate antagonist as an antagonist of either the first or the second chemoattractant receptor.

55. (Currently amended) A kit for detecting a chemokine receptor antagonist comprising:

at least one chemokine; and

a cell migration apparatus comprising an upper chamber for incubating a cell population comprising at least one chemokine receptor with a candidate antagonist and a lower chamber for containing the chemokine,
wherein the upper chamber and the lower chamber are separated by a membrane,
wherein the chemokine contacts with the cell population in the presence of the candidate antagonist,
wherein the chemokine induces movement of the cell population from the upper chamber toward the lower chamber and an inhibitory concentration of said chemokine inhibits movement of the cell population, and
wherein the movement of the cell population toward the lower chamber in the presence of said candidate antagonist and the inhibitory concentration of the chemokine identifies the candidate antagonist as an antagonist.

56. (Original) The kit of claim 55, wherein the chemokine is lyophilized.
57. (Original) The kit of claim 55, wherein the kit comprises at least two chemokines.
58. (Original) The kit of claim 55, wherein the kit comprises at least three chemokines.
59. (Original) The kit of claim 55, wherein the at least one chemokine is in solution.
60. (Currently amended) The kit of claim 55, further comprising a the cell population comprising at least one chemokine receptor.
61. (New) The method of claim 1, wherein the chemoattractant receptor is selected from the group consisting of C5aR, FPR1 receptor, CXCR4, CXCR3, CCR1, and CCR9.

62. (New) The method of claim 28, wherein the chemoattractant receptor is selected from the group consisting of C5aR, FPRL1 receptor, CXCR4, CXCR3, CCR1, and CCR9.

CLAIM STATUS

Claims 1, 2, 14, 17, 19-22, 24, 25, 27-29, 41, 44, 46-49, 51, 52, 54, 55, and 60 are amended. New claims 61 and 62 are added. Amendments to claims 2, 14, 17, 19-22, 24, 25, 29, 41, 44, 46-49, 51, 52 and 60 relate to form and/or grammar only for the purpose of increasing the clarity of each. The support for amendment to claims 1, 27, and 28 may be found throughout the specification including, for example, at pages 18-22, lines 1-4; and Figure 4. The support for amendment to claims 54 and 55 may be found throughout the specification including, for example, at page 30, lines 20-32, continuing at page 31, lines 1-22, and Figure 4. The support for new claims 61 and 62 may be found throughout the specification including, for example, Table A at pages 14-15, and Table C at page 26.

No new matter has been added.

Claims 1-62 are pending.